



Fakulta rybnářství
a ochrany vod
Faculty of Fisheries
and Protection
of Waters

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovicích
Czech Republic

Rescue transfers: How to make the best?



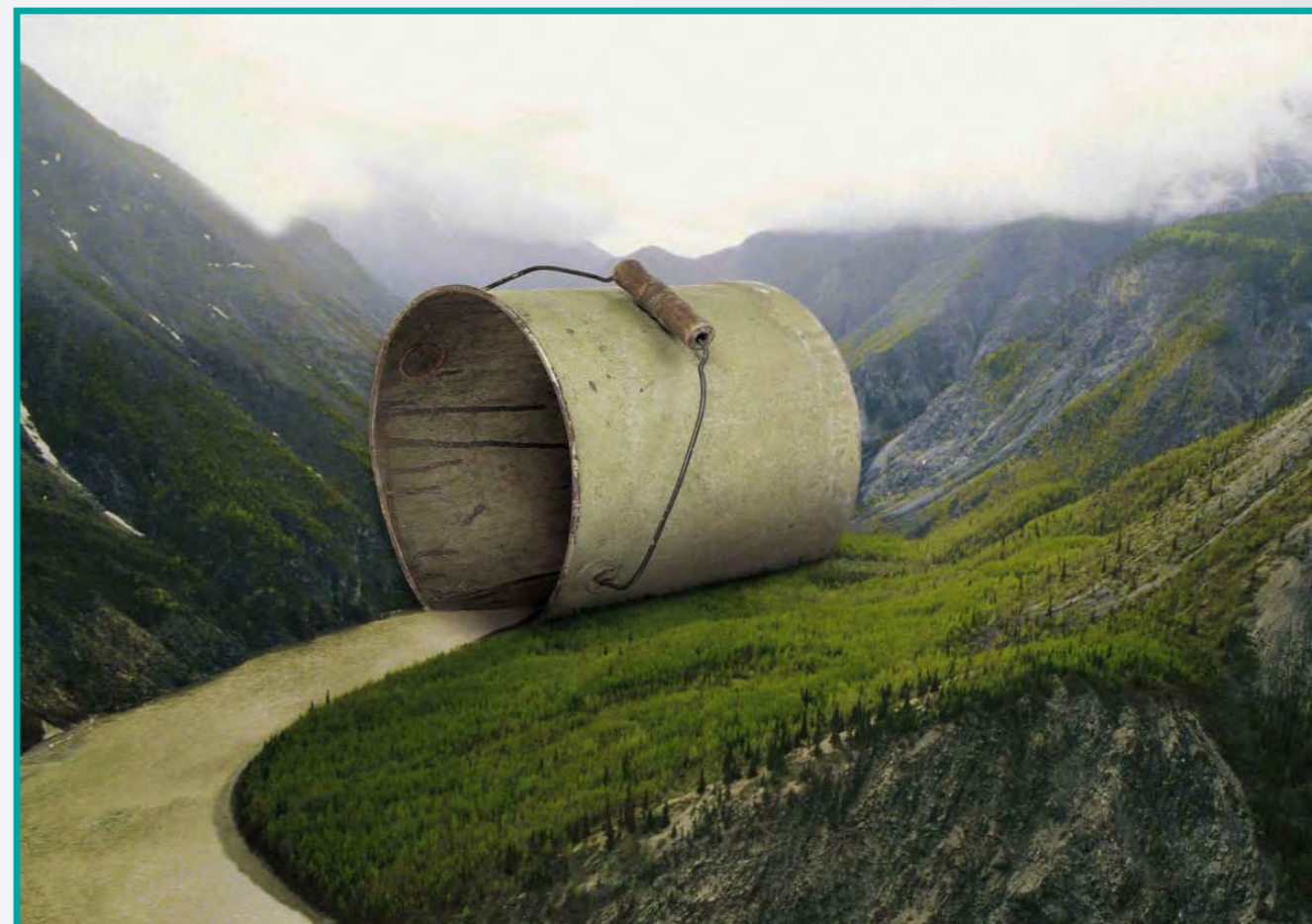
Kozák P., Kouba, A., Buřič, M., Kuklina, I., Fořt, M., Veselý, L., Polícar, T.

University of South Bohemia in České Budějovice, Faculty of Fisheries and Protection of Waters, South Bohemian Research Center of Aquaculture and Biodiversity of Hydrocenoses, Zátíší 728/II, 389 25 Vodňany, Czech Republic

Introduction

Rescue transfers - What and why?

- Transfers of endangered animals from native site due to several reasons:
 - ✓ construction work on rivers, ponds and dams,
 - ✓ unfavourable condition due to weather or contamination, etc.)
- Short term storage under control condition or move to temporary rescue site for the **short** or **long** time (or „**forever**“)



First contact

Questions:

They: Could you do it and how much it will cost? 😊

We: Why, What and When? Is the transfer necessary?



First steps - Examination of locality

- Ex situ - map, project, personal contacts
- In situ - real condition, monitoring of population (species, density)
- Plan of the work - minimalization of negative impact on population, time schedule,
- Methods of catching
- **Temporary rescue site** (genetics, ICS, NICS, predators, water quality, difficulties for backward catching)

Price assesment and contract !!!

Second steps

- Formality - contact with stakeholders, owners, government, environmental agency, fishermen, etc.
- **Necessary permits obtained**
- Detailed survey of locality and plan of the work
- Take appropriate measures to avoid spread of crayfish plague (disinfect boots etc.)
- Be involve in construction of new habitat for crayfish (shelters, construction of bank)

Stack stone bank



Imbank



Methods of catching

Hand searching

- *Shallow waters*



Methods of catching

Electrofishing

- *Unpredictable
successfulness*
- *Injury of crayfish*
- *Permitted training*
- *Migration*
- + *Combination with
catching fish*



Methods of catching

Trapping



Methods of catching

Draining off and hand searching

- *The most effective*
- *Continuous searching on the bank during decreasing of water level*
- *Temperature up to 20° C unsuitable, reproduction cycle*
- *Fill up the water ASAP*
- *The most dangerous for both juveniles and adults*
- *Summering and Wintering - crayfish elimination*







Methods of catching

Combination of trapping and hand searching





Short term storage

- The same (inlet, outlet) or substitute locality

Eel keepnet



Storage-box



Short or midle long term storage

- Controlled condition



Short or midle long term storage



Long term storage - temporary rescue site

Selection criteria

(see Peay., 2009 „ark site“; Souty-Grosset et al., 2009 or Kozak et al., 2011 for reintroduction)

1. Distance and river catchement
- 2. Enhancement of habitat** - water quality, morphology, management of fish stock, predators
3. Easy to catch back
4. Without crayfish (ICS, NICS)



Transport

- *Short or long term*
- *Adults vs. juveniles*



Restocking









Acclimatization



Report

Keep accurate records of the process:

- Dates,
- Numbers, sex and categories,
- Quality of localities,
- Methods of catching and transport,
- Comeback restocking,
- Photodocumentation

Examples

- Babylon pond (carp culture, swimming pond)**
 - 12 ha

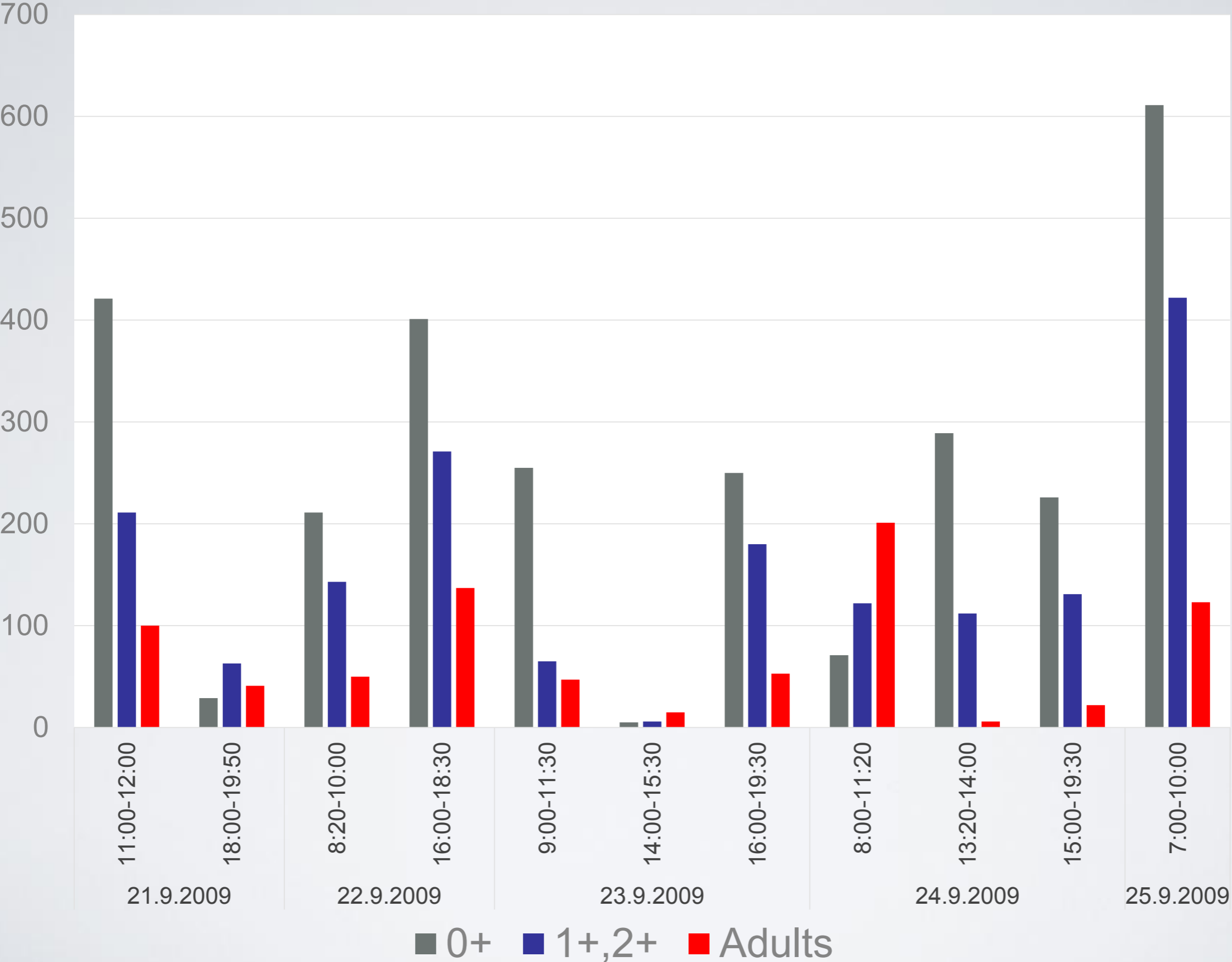


Examples

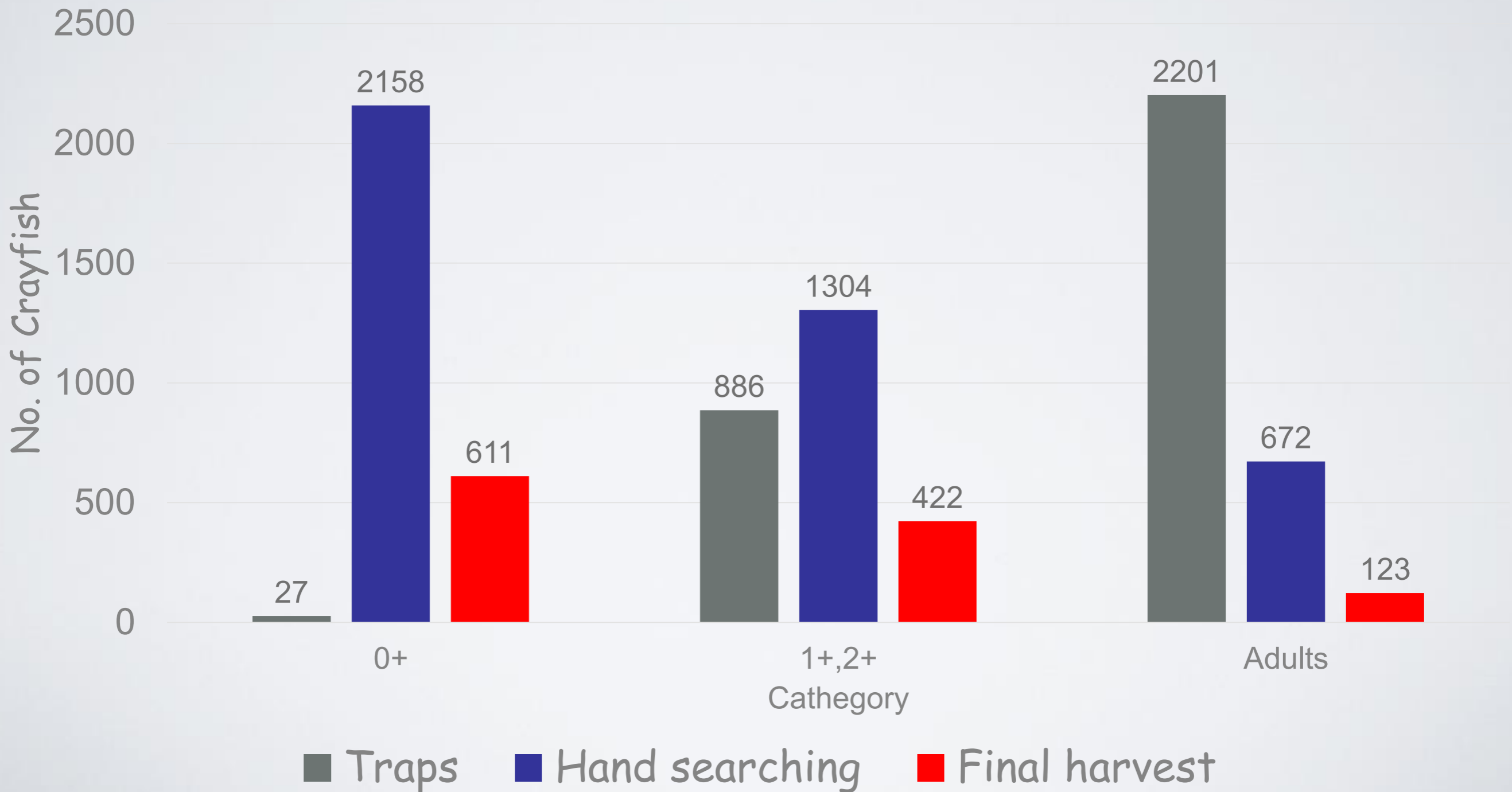
Babylon pond (carp culture, swimming pond)

- 12 ha
- 8 tns crayfish
- 2 unexpected years at temporary rescue site
- 2 ponds for adults and sub-adults and 1 small for yerlings
- (80, 20, 50 % survival)

Traping and hand searching of noble crayfish in Babylon pond (12 ha)



	0+	1+,2+	Adults	Total
Traps	27	886	<u>2201</u>	3114
Hand searching	<u>2158</u>	<u>1304</u>	672	4134
Final harvest	611	422	123	1156
Total	2796	2612	2996	8404



Temporary rescue sites







ka



Examples

Květoňov dam (sport fisheries)

- 8 ha
- 3 ths crayfish (2247 adult, 781 juv.)
- Traping and hand searching
- 1 months at controlled conditions and inlet
- Restocked 2131 adults
- and 560 juv.



Examples

Pařez pond (extensive carp culture)

- 4.4 ha
- Mud removing, bank reconstruction
- Trapping and hand searching
- 2 200 crayfish, 750 juv. - move upstream,
- 1435 sub-adult and adult - 1 year at temporary rescue site
- 50 % survival, 794 crayfish restocked





a Ptáček
ha)











Examples

- **Medvědí brook, Domažlice, revitalization**
- **Stone crayfish and noble crayfish**
- **1 km**
- **Hand searching, stop water inlet - upstream pond**
- **220 stone crayfish and 44 noble crayfish**
- **Moving to downstream and pond**



Examples

- Private pond (sport fisheries, carp culture)
- 4 ha
- 5 ths crayfish (**signal** and **noble**)
- hand searching
- 1 year at temporary rescue site (**noble cr.**)



















Altogether, aprox. 1 000 noble cr. and aprox. 4 000 signal crayfish.



Examples

Černovický brook, Soběslav

- Rescue transfer of **noble** crayfish from destroyed river
- Volunteer rescue transfer (**OL**) !!!!!
- Majority of **O. limosus**, marginal locality
- Over winter under controlled conditions (**AA**)







Result: 1342 **OL** X 96 **AA**



Conclusion

1. The reason and necessity of transfer
2. In situ observation
3. Plan of the work - minimalization of negative impact to the population
4. Permission
5. Methods of catching
6. Choosing of temporary rescue site
7. Catching
8. Storage and transport of crayfish
9. Back catching and stocking of crayfish
10. Report
11. Monitoring of success

Keep accurate records of the proces !!!



Thank you
for care!